
APPENDIX N

ADAPTIVE MANAGEMENT

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The RMP will be implemented using adaptive management processes. Under adaptive management, decisions, plans and proposed activities are treated as working hypotheses rather than final solutions to management of resources and uses. For the purposes of this plan, adaptive management represents a process that tests, evaluates and adjusts the assumptions, objectives, actions, and subsequent on-the ground results from the implementation of RMP decisions. Used effectively, adaptive management provides resource managers with the flexibility to respond quickly and effectively to changing resource and user conditions. Changes in management actions are based on site-specific resource monitoring and evaluation.

The intent of adaptive management is to allow future management actions, as applied through resource management guidelines, to fully incorporate the knowledge and experience gained up to that time from monitoring, evaluation and experimentation. However, adaptive management does not relieve managers of their responsibilities to consider the affects to the human environment of actions proposed under the guise of adaptive management. Manager would still be required to comply with the provisions of NEPA and other applicable laws, regulations and policies before such actions are applied. Certain actions proposed to apply adaptive management techniques may require amendment to the RMP before they could be employed.

Guidelines assure that constraints established in the RMP are consistently applied when management methods and practices are used to meet plan objectives. Examples of guidelines are the livestock grazing guidelines required by CFR 43 §4180, Land Health Standards. Guidelines will be developed for all programs and uses. Guidelines that already exist for many programs and uses will be adopted as is when reviews show them to be applicable to the Planning Area. New site-specific guidelines will also be developed as necessary.

The adaptive management process is a continuous cycle that includes the following four phases:

- **Planning:** Management guidelines, actions, and objectives are developed. Monitoring techniques and adjustment thresholds are designed based upon available information, past monitoring information and current scientific information.
- **Implementation:** Objectives, guidelines, actions and constraints developed and identified during planning processes at all scales are applied as on-the-ground management.
- **Monitoring:** Monitoring includes all efforts to document the current state of implementation, the resulting resource conditions as measured through indicators, and the effectiveness of the implementation. Monitoring is designed to tier from existing data and techniques, be outcome based, technically feasible, affordable, and operationally attainable. Two types of monitoring occur:
 - **Implementation monitoring:** Determines whether the decisions and proposed actions developed during planning are actually being implemented.

- **Effectiveness monitoring:** Determines whether implemented decisions and actions have changed resource condition indicators. If so, determines whether the changes in the indicators are consistent with meeting the objectives.

When additional monitoring is required to fill information gaps, standardized monitoring techniques will be used where available before new techniques are developed. The BLM staff associated with the District and supported by technical experts in the Winnemucca Field Offices will be responsible for developing monitoring and adaptive management protocols and ensuring that documentation is sufficient to facilitate feedback into the adaptive management process.

Evaluation:

- **Modification Evaluation:** The part of the process through which specific objectives, actions, monitoring thresholds, and even resource condition indicators may be modified to better meet the goals of the plan.

- **Timing Evaluation:** determines the needs for and time frames during which changes to planning, implementation and monitoring should occur. The BLM staff will also be responsible for ensuring that monitoring results and other new information is compiled and evaluated in accordance with the two evaluation phases discussed above.

Monitoring will determine whether or not planning objectives are being met and ensure that BLM meets the commitments made in the plan. The information developed through monitoring will feed the evaluation process that may alter decisions or the timing of decisions, change implementation or maintain current management direction.

The key step in developing a monitoring strategy is to define the questions that must be answered to evaluate the attainment of broad-scale management goals and objectives in the RMP. These questions will be used to focus monitoring on appropriate issues and avoid gathering irrelevant information.

Focused monitoring also helps to keep costs within agency budgets.

The first step is to select key monitoring elements and indicators that can be effectively sampled and can provide desired data at a reasonable cost. A standard set of core data elements will be collected. Core data, including data necessary to evaluate achievement of the applicable Land Health Standards, are the minimum set of variables to be collected at all scales. Standardized measurement and reporting protocols will be determined because the need for consistency is essential. Where possible, monitoring protocols will be designed to integrate existing monitoring efforts and will address multiple questions. Also, the design will have the flexibility to add data elements required to answer new questions raised during subsequent site-specific planning.

Determining the specific monitoring approach for any question requires knowledge of detailed information on existing conditions. For example, trend assessment first requires gathering

baseline or status information. Just a few of the projects that have occurred or will be anticipated during implementation of the RMP include: Landscape scale vegetation assessments; overviews for paleontology, history and archaeology; surveys for special status species; collection of meteorological data at weather stations; and visitor use inventories. Data from these projects will be vital to monitoring trends. A monitoring strategy must also identify the techniques needed to acquire a complete picture of the structure and pattern of a resource (i.e., remote sensing, sample-based studies, modeling).

A monitoring system requires the development and use of indicators and thresholds based on guidelines. Thresholds are measurable indicators of when a change in management needs to be made.

For example, the specific amount of resource impacts that would be tolerated before a campsite would be closed to public use and rehabilitated is a threshold. The development of indicators and thresholds will occur during the early part of plan implementation. Until these measures are in place, evaluations may not be completed. Indicators and thresholds will be periodically evaluated to assure that they remain appropriate for the Planning Area.

Monitoring Indicators

Land Health

- Amount of Ground Cover
- Evidence of Erosion
- Vegetation Composition, Vigor and Structure
- Riparian Functional Condition
- Achievement of Water Quality Standards
- Population and Habitat Diversity and Viability
- Special Status Species Viability
- Levels of Invasive Species

Transportation

- Road Condition
- Numbers of Vehicle Accidents
- Numbers of Search and Rescue Incidents
- Erosion/Resource Damage Associated with Roads

OHV Use

- Occurrences of New Tracks
- Condition of Playa Surface
- Changes in Dune Formation and Condition

Cultural Resources

- Evidence of Looting/Vandalism
- Changes in Site Integrity
- Erosion of Trail Traces

- Unauthorized Use of Trails

Paleontological

- Evidence of Looting/Vandalism
- Changes in Site Integrity

Wilderness Values

- See Land Health Indicators
- Changes in Naturalness
- Numbers of Encounters with Other Visitors
- Motorized Trespass
- Boundary Marking
- Number of Wilderness Violations

ACECs

- See Land Health Indicators
- See Cultural Resources Indicators

Vegetation

- See Land Health Indicators

Livestock Grazing

- See Land Health Indicators

Wild Horses & Burros

- See Land Health Indicators
- Population Levels
- Demographics
- Herd Health

Wildland Fire

- Fuel Characteristics
- Burn Area Recovery
- Rehabilitation Success

Fish & Wildlife

- Population Numbers/Trends - Impacts to Habitat

Special Status Species

- See Land Health Indicators

Visual Resources

- Changes in Visual Quality
- Changes to Visual Intrusions/Contrast
- Uses comply with VRM Class

Water Resources

- See Land Health Indicators

Lands & Realty

- Compliance with Stipulations
- Numbers of Trespass Incidents
- Access to Public Lands

Mineral Resource Uses

- Compliance with Stipulations

Soils

- See Land Health Indicators

Recreation

- Site and Trail Encounters
- Surface Permeability
- Evidence of Human Waste
- Vandalism
- Area of Impact
- SRP Stipulation Requirements

Public Information/**Visitor Services**

- Brochure Distribution
- Adequacy of Information
- Visitor Satisfaction
- Demand for Facilities
- Numbers of Search and Rescue Incidents
- Numbers of Law Enforcement Incidents

Evaluations are the mechanism that reviews implementation of the RMP at several levels to see whether management goals and objectives are being met and determine whether management direction is sound. Evaluation examines management actions to determine whether they are consistent with thresholds established for the achievement of the objectives. If they are not, evaluation identifies the reasons. The conclusions are then used to make recommendations on whether to continue current management guidelines, to make changes in management practices to meet plan goals and objectives, or to amend the plan objectives or decision to better meet the capabilities of the land and the intent of the legislation.